



ADMINISTRATION OF NORFOLK ISLAND

WASTE MANAGEMENT STRATEGY

IMPLEMENTATION PLAN 2015/16



Endorsed by:
Peter Gesling
Executive Director Norfolk Island

ADMINISTRATION OF NORFOLK ISLAND

THREE STEPS TO COMPLETE THE STRATEGY AND AFFORDABLE ANNUAL PLANS BASED ON THE 2015 WASTE MANAGEMENT STRATEGIC PLAN (WMSP) – A. PRINCE CONSULTING IN PARTNERSHIP WITH ECO NORFOLK

Background:

1. The NIG's original Terms of Reference for a waste management strategy had been to review and refine an in-house document, *Norfolk Island Territorial Waste Strategy 2015*.

The Draft *Waste Management Strategic Plan* provided by A.Prince Consulting on 29 June, 2015 was based on a quotation of \$22,464 received in the document *Proposal – Development of a Waste Management Strategic Plan*.

A. Prince Consulting completed the draft strategic plan in eight weeks, meeting a \$350,000 Funding Agreement milestone for June, 2015.

2. The *Implementation Plan* (Chapter 10 of the Strategic Plan) and *Implementation Budget* (Chapter 11) are not considered to be achievable in their current form, due primarily to a lack of available resources and funds.
3. The information contained in the *Implementation Plan* and *Implementation Budget* have been used as a basis for this proposal.

Proposal:

The attached document “*Three Steps to complete strategy and affordable annual plans*” has been prepared using information provided in chapters 10 and 11 of A.Prince Consulting's Draft Strategic Plan.

The issues have been prioritised based importance, and picking the low-hanging fruit as soon as possible.

The focus of this proposal is on the most preferred methods of waste management in the Waste Hierarchy:-

- Avoid and reduce through public education.
- Reuse through a combination of public education and Waste Management Centre (WMC) operation and layout.
- Improve recycling outcomes through a combination of improved efficiencies gained from the greater use of technology; improved WMC operation and layout; and public education ensuring a smaller percentage of recyclables remain in disposable waste streams.

Whilst there is a lesser focus on the less preferable options in the hierarchy; the shredding and baling facilities also being used to improve the efficiency of shipping waste such as plastic, tyres and e-waste as well as recyclables.

Under this proposal the use of a high temperature incinerator is discounted, as the focus is on the preferred methods of waste management rather than disposal.

Incinerator Funding (\$433k) substitute projects:

1. \$100k Mini sorting line, and
2. \$200k Multipurpose Baler
or
3. \$150k Bio-Bin system and \$95k Glass System upgrade

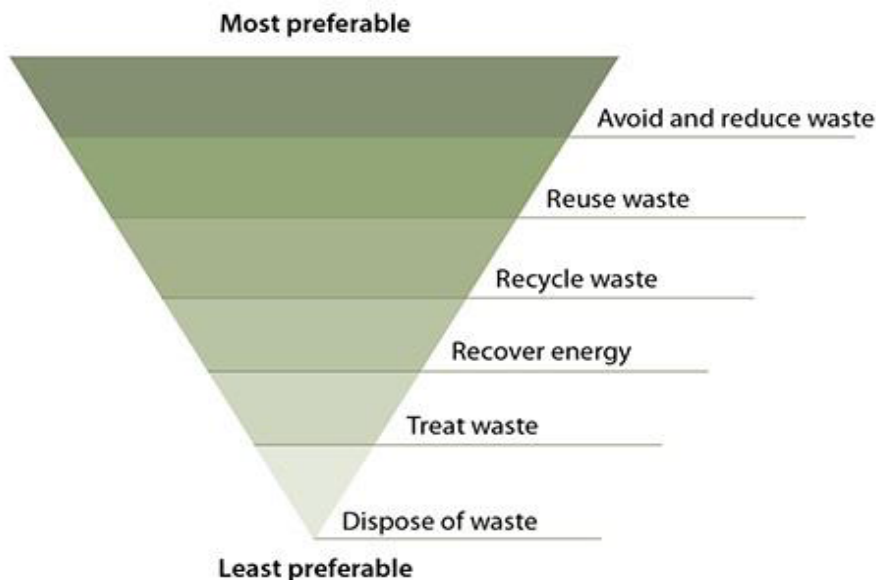
Concepts:

- **Adopt a policy framework, as proposed in Section 5 of the WMSP.**
- **Introduce a four stream source separated waste management program.**
- **Adopt an Implementation Plan, including capital and operating budgets.**

1. Adopt a policy framework, as proposed in Section 5 of the WMSP

Use the waste hierarchy as the guide to help establish actions and priorities:

5.1.2 Waste Hierarchy - an internationally accepted guide for prioritising waste management practices. The waste hierarchy sets out the most-to-least-preferred methods for waste management globally. The waste hierarchy has evolved over the past four decades and now includes six steps as depicted in the diagram below:



2. Introduce a four stream source separated waste management program

As recommended in section 7 of the WMSP, introduce a source separated program based on the following four key waste streams:

1. Reusable
 - soft drink beverage containers, furniture, building materials, bric-a-brac,
2. Recyclable
 - on island - glass, building waste - bricks, timber.
 - off island - plastics, metals, aluminium cans, paints, oils, toner cartridges, fluorescent globes
3. Compostable

- food, paper/cardboard and garden waste
- 4. Residual waste
 - off island – chemicals, smoke detectors, paints , asbestos
 - on island - other household and business waste

3. Adopt an Implementation Plan, including capital and operational budgets

The following Implementation Plan is divided into three focus areas:-

- A. Establish framework, drivers and policies;
- B. Waste Management Centre – Operations, layout, equipment;
- C. Community waste education and roles.

This Implementation Plan is based on Sections 10 and 11 of the WMSP, with the priority issues listed in tables 20 to 23 being prioritized within the three sections (above)

- D. Suggested ordering of priorities as follows:

All 41 Recommendations are addressed in Tables 20-23:

- Table 20: Immediate priority issues – 1-11
- Table 21 Urgent priority issues – 12-31
- Table 22: Very high priority – within 2 years – 32-34
- Table 23- High priority – within 3 years – 35-41

Suggested priorities of actions for implementation are based on estimated reality of ability to implement under current resources (financial and staffing) arrangements.

Table 25-Capital budget used to provide costs where an estimate or comment is provided; where none is provided, some guesstimates of simple high, medium, low capital costs made, to help prioritise possible actions to implement.

A		ESTABLISH FRAMEWORK, DRIVERS, POLICIES					
	PRIORITY	<u>APPOINT TECHNICAL OFFICER, COMMENCE RESEARCH AND POLICY DEVELOPMENT</u>	ISSUE NO.	RECOMM NO.	CAPITAL COST	RESPONSIBILITY	2015/16 BUDGET
1	A	That a technical advisor be engaged to oversee implementation of the strategy including the preparation of a detailed Waste Management Plan, budget and time-line subject to budget approvals and agreed priorities. <i>(Table 25- technical adviser- oversee project implementation and develop WMP - on Island one week per month x 10 months)</i> (Noted in meeting 7/10/15 - preferable to be dedicated Island based position Part-time)	8	2	\$130K	ANI Executive /HR	\$20K
2	A	A Waste Advisory Committee (WAC) be formed drawing representation from all sections of the community and specific interest groups supported by a number of sub committees as required.	9	1	-	ANI Executive & Technical Officer	\$2K
3	B	Policies, procedures and processors are established to collect and export all materials and sufficient funds allocated annually for this purpose.	20	12	-	Technical Officer	\$0
4	B	That documented policies, procedures, processors and protocols are established for the export of all materials to be compliant with transport and trans-movement of materials between jurisdictions and sufficient funds allocated annually for this purpose	11	42	-	Technical Officer	\$0
5	C	Investigate and implement complimentary legislation to enable Norfolk Island to be part of the Australian Extended Producer Responsibility programs.	25	18	-	Technical Officer	\$0
6	C	As a priority seek to be part of the Extended Producer Responsibility for computer and televisions take back and when a return system has been established communicate to the community and establish a site for consolidation.	26	19	-	Technical Officer (& local suppliers / importers)	\$0
7	C	That the Sims Metal Australia proposal to export baled metals be reinvestigated <i>(Table 25 - regular export of scrap metal - TBA)</i>	32	29	TBA	Technical Officer	\$0
	PRIORITY	<u>INCOME GENERATION TO PAY FOR IMPLEMENTATION & MAINTENANCE OF WASTE STRATEGY</u>					
8	A	That an alternate means of generating income be explored to provide both equity, user pays and adequate income to offset current and future activities at the WMC including the annual export of problem household wastes	30	28	-	Technical Officer	\$0
9	C	That ANI apply a waste import levy on all motorised transport to pay for its future end of life management and such funds be kept separate for that activity	33	30	-	Technical Officer	\$0

B		WASTE MANAGEMENT CENTRE – OPERATIONS, LAYOUT, EQUIPMENT					
	PRIORITY	<u>PRIORITY SAFETY AND HOUSEKEEPING / CLEAN UP OF WMC</u>	ISSUE NO.	RECOMM NO.	CAPITAL COST	RESPONSIBILITY	2015/16 BUDGET
10	A	That all stockpiles of hazardous and problematic wastes be removed from the WMC (<i>Table 25 – Export all stockpiles – as per 2015 tender</i>)	3	10	As per 2015 tender. (budget – 2014/15- \$180K; 2015/16 - \$200K)	John Wichman contract	\$300K (\$200k per annum ongoing)
11	A	The three drums of unknown chemicals which are currently in the corner of the quarantine shed must be tested and removed as a matter of priority after 7 years.	4	23	As above	As above	Included in 10 above
	PRIORITY	<u>HIGH PRIORITY OPERATIONAL CHANGES</u>					
12	A	That opening days be changed to reflect community need for the WMC to be open on Sunday and Monday and closed for two consecutive day's mid-week.	17	8	Low	Negotiate / rearrange work days with WMC staff; may need part time other staff	\$8K spread of hours
13	A	To improve operational efficiencies given limited staff at the WMC that a trial of reducing opening hours from 7.00am to 1.00pm be introduced	18	9	Low	Advise community; publicity	\$0
14	A	That no access to Headstone be permitted by any builders without first reporting to the WMC where the load details are logged	10	5	Low	Advise community; WMC to log material details (extra task)	\$0
15	A	That ANI refer to the NSW EPA Transfer Station Operation and Checklist as a key reference document in relation to standards of operation and practice.	14	3	-	Technical Adviser role with WMC Manager & staff	\$0

	PRIORITY	PRIORITY REARRANGEMENT/REFURBISHMENT OF WMC	ISSUE NO.	RECOMM NO.	CAPITAL COST	RESPONSIBILITY	
16	A	In conjunction with the above document (Standard Operating Procedures and Checklist) a new concept plan be developed for the WMC taking into account the recommendations made in this report seeking to improve operational efficiencies and current layout of the site to improve storage and handling of all waste streams for household hazardous, reuse area and building materials.	15	4	-	Technical Adviser role with WMC Manager & staff	\$0
17	A	That standard signage be used throughout the WMC.	16	6	Low	As above	\$2K
18	A	That the WMC be provided with secure doors to prevent unauthorised access out of hours.	19	11	Medium		\$20K
19	A	A new community interface should be provided within the WMC to allow for easy and convenient drop off of household hazardous material including: paint - water and oil based, oils - motor and cooking, gas bottles and fire extinguishers, car and household batteries, fluorescent tubes and globes, smoke detectors, toner cartridges, computers, TV. <i>(Table 25 - new interface for separation of up to 12 hazardous streams - signage, IBC's or drums - TBA).</i>	21	13	TBA (D)	Technical Officer & WMC staff	\$2K
20	A	That ANI continue to explore options to expand and enhance the reuse shed concept which is a critical component promoting the reuse ethic through-out the community. <i>(Table 25- Extend area at existing WMC, provide shelves and racking, or new shed - TBA)</i>	23	24	TBA	As above	TBA
21	A	The bunkers or bays be provided for the delivery storage and consolidation of metals and construction materials at the WMC <i>(Table 25 - bunkers or bays for metal and concrete)</i>	34	7	TBA	As above	TBA
22	B	Battery Banks be purchased and provided at WMC and retail outlets where batteries are sold <i>(Table 25 - Battery containers - TBA)</i>	24	17	TBA	As above	TBA
23	B	The services of ChemClear should be engaged to assess, pack and remove all chemical wastes annually accumulated or at other regular intervals determined subject to the amount of chemicals accumulated <i>(Table 25 - Test the contents of the unknown chemicals and export TBA).</i>	2	22	TBA	As above	Included in item 10 above
24	B	That an accredited trainer from Ag Safe or ChemClear undertake staff training on the correct storage and handling of chemicals <i>(Table 25 - Chemical training course - TBA).</i>	5	21	TBA	As above	Included in item 10 above, or HR budget
25	B	That a hazardous storage cabinet be purchased and installed to contain chemical in a safe manner prior to disposal <i>(Table 25 - \$8K).</i>	6	20	\$8K	As above	\$8K
26	B	That banded pallets be purchased and used to ensure any spill or leak is wholly contained. <i>(Table 25 - TBA).</i>	7	14	TBA	As above	\$5K

	PRIORITY	PRIORITY REARRANGEMENT/REFURBISHMENT OF WMC (cont'd)	ISSUE NO.	RECOMM NO.	CAPITAL COST	RESPONSIBILITY	
27	B	That a site visit be arranged with Australian Bale Press to explore options to maximise operational efficiencies at the WMC at least cost and to determine the most appropriate system taking into consideration the site conditions, quantity and composition of the delivered materials, staffing and budget constraints. <i>(Table 25 - travel, design - \$20K)</i>	12	39	\$20K	As above	\$20K Yellow represents substitute projects for \$433k Incinerator funding.
28	C	A mini sorting line comingled with magnetic head and a multipurpose baler be purchased to bale all recyclables, residual waste and metals	13	40	\$100K	As above	\$100K \$200K
29	C	The glass system be upgraded to a second hand unit Andela glass hammer mill and screening trommel that will overcome the existing blockages and jamming <i>(Table 25 - additional equipment for upgrade totals \$95K)</i>	31	41	\$95K	As above	\$95K
30	D	Bio-bin system be introduced to enable the co-composting of food, cardboard and garden / green waste in an enclosed vessel thus eliminating the risks of odour generation or implement the MAF composting system as a priority in consultation with the Argentine Ant eradication initiative to enable treatment of the organic waste stream <i>(Table 25 - 6 x 4.5 m stainless steel Bio-bins with spare parts (\$150K) & Temperature probe (\$3K)</i>	35	31	\$153K	As above	(option instead of part of 28 above).
31	D	Ensure that the Bio-bins can be emptied by use of a rotating head on the existing forklift or allocate funds to purchase a rotating head or pulley system <i>(Table 25 - Optional pulley system or rotating head on forklift \$10K)</i>	36	32	\$10K	As above	(Option instead of part of 28 above).
32	D	That a trommel and screen be acquired to enable marketing of a soil conditioner and mulch product thus enabling maximum return on investment.	37	33	TBA	As above	
33	D	<i>(Not noted in Implementation Plan, noted in Table 25 Capital Budget - Wheelie Bins at WMC to receive food waste (for treatment in Bio-bins)</i>			TBA		
34	D	Purchase a bin lifter to empty the food waste wheelie bins into the bio bins. <i>(Table 25 - Bin lifter \$7.5K)</i>	41	37	\$7.5K	As above	(Option instead of part of 28 above).
35	D	Investigate the need for a bin washer	42	38	TBA	As above	(Option instead of part of 28 above).

	PRIORITY	NOT SPECIFICALLY MENTIONED IN IMPLEMENTATION PLAN, STRATEGY OR RECOMMENDATIONS (LISTED FOR COMPLETENESS ONLY)	ISSUE NO.	RECOMM. NO.	CAPITAL COST	RESPONSIBILITY	2015/16 BUDGET
36	E	Recycling Upgrade - Option A - Mini sorting line comingled with magnetic head (Table 25 - \$100K) Option B- Automatic baling system (Table 25 - \$250K)			A\$100K B\$250K		
37	E	Optional Glass Washing System and Auger (Table 25)			\$105K		
38	E	Upgrade Shredder to multipurpose with commissioning and trading (trade in existing) (Table 25 - \$300K)			\$300K		
39	E	Export baled waste - freight and plastic bags (Table 25 - TBD)			TBD		
40	E	Green waste and food processing - (Table 25) <ul style="list-style-type: none"> • Teclor green waste processor - mechanical overhaul • Trommel & screen Front end loader - lease or hired <ul style="list-style-type: none"> • Site design, equipment, commissioning and training • Power supply and usage • Water supply • Existing pad to be assessed 			\$500K Plus TBA's		

C		COMMUNITY WASTE EDUCATION AND ROLES					
PRIORITY		<u>GENERAL COMMUNITY EDUCATION</u>	ISSUE NO.	RECOMM NO.	CAPITAL COST	RESPONSIBILITY	
41	A	That once government has made a commitment to implement this strategy and a timeline agreed that a part-time waste education officer be employed to engage, educate and motivate all sections of the community in the quest to improve waste management on Norfolk Island.	29	27	\$30K	Executives and Technical Officer	\$20K
42	A	That adequate funds be provided to review, update and implement the Norfolk Island Waste and Resource Recovery Education Strategy 2008 - 13.	27	25	\$5K	Waste Education Officer	\$5K
43	A	That a Waste Education Working Group be established to deliver the above strategy and such a group be adequately resourced. <i>(Table 25 - Education resources - \$10K)</i>	28	26	\$10K	Technical Officer and Waste Education Officer	\$5K
44	A	Community education be undertaken to encourage the community to clean out unwanted household hazardous items prior to the removal of the stockpiles	1		Low	Waste Education Officer (publicity)	\$20K
PRIORITY		<u>COMMUNITY PARTICIPATION AND ROLES</u>					
45	C	ANI commences collecting fluorescent globes and tubes from the community and obtain one way shippers to reduce breakage during storage and transport. <i>(Table 25- fluorescent globes and tubes shippers - TBA)</i>	22	16	TBA	WMC & Technical Officer	
46	D	Introduce a food waste service to the commercial and domestic households. <i>(Table 25 - Education resources \$5K)</i>	38	34	\$5K	As above	
47	D	Consult with and encourage the tourism sector to purchase kitchen benchtop compost bins and compostable bags for all tourist accommodation facilities	39	35	TBA	As above	
48	D	Consult with the community and commercial premises to determine the number of 20 litre buckets required for the storage and delivery of food waste	40	34	TBA	As above	